**Brief**

The prepFAST-MC is a fully automated low pressure chromatography system that isolates elements of interest from the sample matrix and collects up to multiple discrete eluent fractions for precise isotopic analysis. The syringe-driven system allows sample loading, multiple acid washes, column conditioning and elution cycles all at user-defined intervals (time, volume and flow rate).

**Figure 1.** Fully-automated chromatographic separation of Sr and Ca from matrix components that affect mass bias and contribute to isobaric, polyatomic and doubly charged interferences. In carbonate samples it is possible to also collect the Mg fraction during sample load and wash cycles.

**Figure 2.** The prepFAST-MC system schematic illustrating three-steps of 1) loading sample into a loop 2) pushing sample reagent onto column and 3) eluting sample to destination vial.
**Benefits:**

- Fully automated
- User defined
  - sample size
  - elution volume
  - wash/load/elute rates
- Multiple fractions
- High throughput (30-50 samples/day)
- Stand alone system runs 24 hrs unattended

**Figure 3.** SC-4 DX top view with locations for Sample, Fraction 1, Fraction 2, and Fraction 3. Vial sizes, styles and rack configurations are flexible.